AMENDMENT UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2124
PATENT
Application # 09/822,300
Attorney Docket # 2000P07515US01 (1009-087)

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for representing industrial automation computer program code created using a graphical programming language via a tool that stores the created code in computer memory in an internal representation during execution, the method comprising the steps of:

identifying industrial automation code in computer memory in the internal representation; and

converting the code from the internal representation to a markup language version of the code format.

2. (Currently Amended) The method according to claim 1, comprising the further step of causing the converted, markup-formatted language version of the code to be stored in a computer data storage device.

3. (Currently Amended) The method according to claim 1, further comprising the step of transmitting the markup-formatted language version of the code over a network to a receiving computing device.

4. (Currently Amended) The method according to claim 2, comprising the further steps of retrieving the markup-formatted language version of the code from the computer data storage device and converting the markup-formatted language version of the code to the internal representation in computer memory.

5. (Currently Amended) The method according to claim 2, comprising the further steps of retrieving the markup-formatted language version of the code from the computer data storage device and representing the retrieved code in as a corresponding graphic format graphical programming language version on a computer display.

6. (Currently Amended) The method according to claim 5, wherein the display of the markup ~~formatted~~ language version of the code is facilitated by a browser.

7. (Original) The method according to claim 2, wherein the markup language is XML.

8. (Original) The method according to claim 1, wherein the graphical programming language comprises a flowchart language.

9. (Original) The method according to claim 1, wherein the graphical programming language comprises a ladder logic language.

10. (Original) The method according to claim 1, wherein the graphical programming language comprises a function block diagram language.

11. (Original) The method according to claim 1, wherein the graphical programming language comprises a sequential function chart.

12. (Original) The method according to claim 7, wherein the graphical programming language comprises a flowchart language.

13. (Original) The method according to claim 7, wherein the graphical programming language comprises a ladder logic language.

14. (Original) The method according to claim 7, wherein the graphical programming language comprises a sequential function chart.

15. (Original) The method according to claim 7, wherein the graphical programming language comprises a sequential function block diagram language.

AMENDMENT UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2124
PATENT
Application # 09/822,300
Attorney Docket # 2000P07515US01 (1009-087)

16. (Currently Amended) The method according to claim 1, wherein the ~~graphical programming language~~ tool comprises an editor and the conversion is triggered by invoking an editor command.

17. (Currently Amended) The method according to claim 7, comprising the further steps of retrieving the markup language version of the ~~formatted~~ code from the computer data storage device and representing the retrieved code ~~in~~ as a corresponding ~~graphic format~~ graphical programming language version on a computer display.

18. (Original) The method according to claim 17, wherein the step of displaying the code on a computer display device comprises the step of displaying the code with the use of a browser.

19. (Currently Amended) A computer program product, for use in conjunction with a computing device, for creating industrial automation system control program code using a graphical language via a programming tool and storing the code in a computer memory in an internal representation during execution, the computer program product comprising a computer usable medium, the computer usable medium comprising:

computer readable program code for identifying industrial automation control program code stored in computer memory in the internal representation;

computer readable program code for converting the identified industrial automation control program code from the internal representation to a markup language ~~format~~ version of the code.

20. (Currently Amended) The computer program product according to claim 19, the computer usable medium further comprising computer readable program code for causing the converted, markup language version of the ~~formatted~~ code to be stored in a computer data storage device.

Page 4 of 15

AMENDMENT UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2124
PATENT
Application # 09/822,300
Attorney Docket # 2000P07515US01 (1009-087)

21. (Currently Amended) The computer program product according to claim 20, the computer usable medium further comprising computer readable program code for causing retrieval of the markup language version of the formatted code from the computer data storage device and converting the markup language version of the formatted code to the internal representation in computer memory.

22. (Currently Amended) The computer program product according to claim 19, the computer usable medium further comprising computer readable program code for causing the transmission of markup language version of the formatted code over a network to a receiving computing device.

23. (Currently Amended) The computer program product according to claim 20, the computer program product further comprising computer readable program code for retrieving the markup language version of the formatted code from the computer data storage device and representing the retrieved code in as a corresponding graphic format graphical programming language version on a computer display.

24. (Currently Amended) The computer program product according to claim 23, wherein the display of the markup language version of the formatted code is facilitated by a browser.

25. (Original) The computer program product according to claim 19, wherein the markup language is XML.

26. (Original) The computer program product according to claim 19, wherein the graphical programming language comprises a flowchart language.

27. (Original) The computer program product according to claim 19, wherein the graphical programming language comprises ladder logic.

AMENDMENT UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2124
PATENT
Application # 09/822,300
Attorney Docket # 2000P07515US01 (1009-087)

28. (Original) The computer program product according to claim 19, wherein the graphical programming language comprises function block diagrams.

29. (Original) The computer program product according to claim 19, wherein the graphical programming language comprises a sequential function chart.

30. (Original) The computer program product according to claim 25, wherein the graphical programming language comprises a flowchart language.

31. (Original) The computer program product according to claim 25, wherein the graphical programming language comprises a ladder logic language.

32. (Original) The computer program product according to claim 25, wherein the graphical programming language comprises a function block diagram language.

33. (Original) The computer program product according to claim 25, wherein the graphical programming language comprises a sequential function chart.

34. (Currently Amended) The computer program product according to claim 19, further comprising computer readable program code for converting the markup language version of the formatted code to the graphical programming language internal representation.

35. (Currently Amended) The computer program product according to claim 19, wherein the computer program product graphical-language programming tool comprises an editor, and wherein the conversion is triggered by invoking an editor command in the graphical programming language editor.

36. (Currently Amended) A computer program product comprising a computer-readable storage medium and having a~~ ~~data ~~structure~~ structure stored thereon, the data ~~structure~~ structure comprising a representation of industrial automation control code ~~formatted in~~as a markup language version of the code.

37. (Original) The computer program product according to claim 36, wherein the markup language is XML.

38. (Original) The computer program product according to claim 36, wherein the computer program product is coupled to a computing system that is remotely located from an industrial automation control system.

39. (Currently Amended) A computer program product for permitting a user to create industrial automation control programs, the product comprising a computer-readable storage medium having computer program code stored on it, the code comprising:

industrial automation graphical programming language code, the graphical programming language code comprising an editor adapted to permit the user to create industrial automation control code using graphical elements, the control code being stored in memory in an internal representation during execution; and

computer program code for converting industrial automation control code, stored in memory in the internal representation, from the internal representation to a markup language version of the code~~format~~.

40. (Currently Amended) The computer program product according to claim 39, further comprising computer program code for converting industrial automation control code from the markup language version of the code ~~format~~ to the internal representation.

41. (Currently Amended) A method for communicating the logical structure of industrial

AMENDMENT UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2124
PATENT
Application # 09/822,300
Attorney Docket # 2000P07515US01 (1009-087)

automation control program data in order to permit a plurality of application developers to create applications relating to the data, the method comprising the steps of:

creating a schema defining a content model for a markup language files version of an industrial automation control code program generated converted from a graphical language version of the industrial automation control code program by an industrial automation control program system; and

posting the schema for access over a network by the application developers.

42. (Original) The method according to claim 41, wherein the schema is an XML schema.

43. (Original) The method according to claim 41, wherein the industrial automation control program data comprises flowchart programming instructions.

44. (Currently Amended) A method for providing industrial automation control code from a server system, over a network to which the server system is coupled, and to a client system also coupled to the network, the method comprising the steps of:

accessing a markup formatted language version of the control code;

transmitting the accessed, markup formatted language version of the control code over the network in connection with a network address corresponding to the client system, thereby causing the transmitted, markup formatted language version of the control code to be received by the client system.

45. (Currently Amended) The method according to claim 44, wherein the client system, in response to the received markup language version of the formatted control code, has transmitted to the server system data relating to the automation to which the markup formatted language version of the control code is directed, and, further, wherein the server system has access to control code modified in response to receipt of the data from the client system, and wherein the modified control code is provided in a markup formatted language version, the method comprising the further step of:

Page 8 of 15

AMENDMENT UNDER 37 C.F.R. 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2124
PATENT
Application # 09/822,300
Attorney Docket # 2000P07515US01 (1009-087)

transmitting the markup ~~formatted,~~ language version of the modified control code over the network in connection with a network address corresponding to the client system, thereby causing the transmitted, modified, markup language version of the ~~formatted~~ control code to be received by the client system.

46. (Currently Amended) The method according to claim 45, wherein the step of transmitting the accessed, markup language version of the ~~formatted~~ control code over the network comprises sending an electronic mail message.

47. (Currently Amended) The method according to claim 45, wherein the step of transmitting the accessed, markup language version of the ~~formatted~~ control code over the network comprises transmitting the code over the network via hypertext transfer protocol.

48. (Currently Amended) The method according to claim 44, wherein the markup language version ~~format~~ of the control code comprises XML.

49. (Currently Amended) The method according to claim 44, wherein a second client system is coupled to the network, the method further comprising the step of:

transmitting the accessed, markup language version of the ~~formatted~~ control code over the network in connection with a network address corresponding to the second client system, thereby causing the transmitted, markup language version of the ~~formatted~~ control code to be received by the second client system.

50. (Currently Amended) The method according to claim 49, wherein the first client system is configured to reconvert the markup language version of the ~~formatted~~ control code to a first internal representation, and wherein the second client system is coupled to the network, the second client configured to reconvert the markup language version of the ~~formatted~~ control code to a second internal representation.

51. (Currently Amended) A method for programming industrial automation control applications comprising the steps of:

providing a computer system coupled to a network;

configuring the first computer system to receive over the network transmissions of data from a plurality of industrial automation program developer systems; and

receiving data from the plurality of industrial automation program developer systems, the data comprising industrial automation program code presented in a markup language version format.

52. (Original) The method according to claim 51, wherein the markup language is XML.

Page 10 of 15